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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,387	09/23/2003	Andrew W. McCullough	1857.1040003	9380

26111 7590 01/15/2004

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WASHINGTON, DC 20005

EXAMINER

ESPLIN, DAVID B

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,387

Applicant(s)

MCCULLOUGH ET AL.

Examiner

D. Ben Esplin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9/03.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the micro lens array comprising hexagonal close packed parabolic lenslets (claims 3 and 19), the micro lens array including conical lenslets (claims 4 and 20), and the micro lens array including pyramidal lenslets (claims 5 and 21) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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An optical element including means for modifying an illumination property that is refractive is not recited anywhere in the Specification, or shown in the drawings.

Double Patenting

Claims 1, 2, 6-15, 17, 18, and 22-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,259,513 ('513). Although the conflicting claims are not identical, they are not patentably distinct from each other because '513 teaches of an optical element including a plurality of different illumination regions (plurality of ... different predetermined spatial locations, claim 1; plurality of spatially separate regions, claim 2; array optical element varying illumination properties ... in the longitudinal direction, claim 6), the regions having different illumination properties based on imperfections of the projection optics (claim 6). Imperfections in the lithographic art are variations in linewidth. Claim 3 teaches that the optical element may be a micro lens array. Claims 1, 8 and 9 teach that the illumination properties to be varied may be either fill geometry or partial coherence. Claim 6 further discloses that the illumination property may be varied in a single direction (longitudinal) along the optical element.

Claims 3, 4, 19, and 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of '513 in view of U.S. Patent No. 5,864,381 to Neal et al. (Neal). '513 is applied as above. '513 does disclose that the optical element may be a micro lens array, but is silent concerning the particular structure of the lenses in the array. Neal teaches that the use of parabolic (col. 2 line 16), hexagonal (FIG. 7) lenslets in

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a micro lens array was well known in the art. Therefore, it would have been obvious to make the micro lens array in the claims of '513 with parabolic hexagonal lenslets, as taught by Neal, as an art recognized specific embodiment of the broad recitation of a micro lens array.

Claims 5 and 21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of '513 in view of U.S. Patent No. 5,714,218 to Nishia et al. (Nishia). '513 is applied as above. '513 does disclose that the optical element may be a micro lens array, but is silent concerning the particular structure of the lenses in the array. Nishia teaches that the use of pyramidal lenslets in a micro lens array was well known in the art (FIG. 9). Therefore, it would have been obvious to make the micro lens array in the claims of '513 with pyramidal lenslets, as taught by Nishia, as an art recognized specific embodiment of the broad recitation of a micro lens array.

Claims 26-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,628,370 ('370). Although the conflicting claims are not identical, they are not patentably distinct from each other because '370 suggests a method including the steps of identifying spatial locations on a printed photosensitive substrate (identifying, mapping, and determining steps of claim 1), modifying an illumination property at spatial locations on the reticle corresponding to the spatial locations identified in the identifying step (modifying and exposing steps of claim 1). '370 further claims the illumination properties as being partial coherence.

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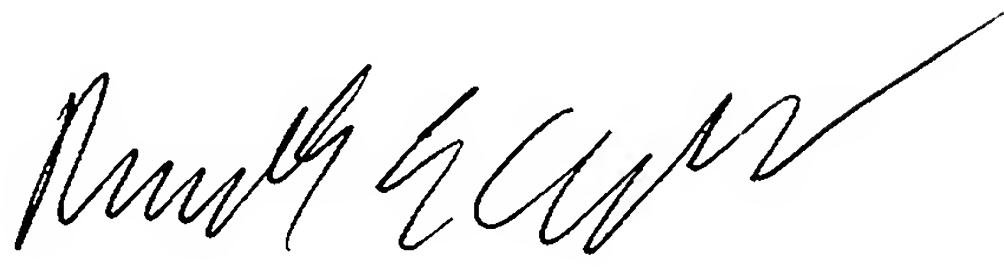
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Ben Esplin whose telephone number is (703) 305-4022. The examiner can normally be reached on Mon.-Fri. (8am-4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on (703) 308-2847. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DBE
DBE


RUSSELL E. ADAMS
PATENT EXAMINER
TECHNOLOGY CENTER 2800